

NF-118

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

A. BUERKE ET AL.

Serial No.: 10/724,136

Filed: December 1, 2003

For: LOW RESISTANCE BARRIER FOR
A MICROELECTRONIC
COMPONENT AND METHOD FOR
FABRICATING THE SAME

Art Unit: 2811

Examiner: Not Yet Assigned

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Applicants wish to make of record in the above-identified application the document or documents referenced on the attached Form PTO-1449. A copy of each non U.S. reference is enclosed herewith.

The cited references are mentioned in a German Office Action dated September 2, 2003 received in applicant's corresponding German application and on pages 5 and 6 of the above-identified application and are believed relevant for at least that reason.

The undersigned believes that this Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits for the above-referenced application. Accordingly, Applicants do not believe that a fee is due for filing this paper. However, should a first action on the merits have been issued on the same day or before this Information Disclosure

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Art Unit: 2811

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Statement is filed, please accept this Information Disclosure Statement under Rule 97(c) and charge the requisite Rule 17(p) fee to our Deposit Account No. 50-1390, under Order No. INF-118 and proceed to consider this Information Disclosure Statement.

It is respectfully requested that the information be expressly considered during the prosecution of this application, and that each reference be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This submission does not represent that any referenced document is material or constitutes "prior art." If it should be determined that one or more of the referenced documents constitute "prior art" under United States law, Applicants reserve the right to present to the Office the relevant facts and law regarding the appropriate status of the reference or references.

Applicants further reserve the right to take appropriate action to establish the patentability of the disclosed invention over any referenced document, should it be applied against the claims of the present application.

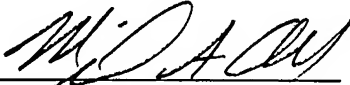
SHAW PITTMAN LLP
1650 Tysons Boulevard
McLean, VA 22102
Tel: 703/770-7900

Date: May 10, 2004

Respectfully submitted,

A. BUERKE ET AL.

By:


Michael A. Oblon
Registration No. 42,956

Customer No. 28970



PTO/SB/08A (10-01)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 1 of 2

Complete if Known

Application Number	10/724,136
Filing Date	12/1/03
First Named Inventor	A. Buerke et al.
Art Unit	2811
Examiner Name	Unknown
Attorney Docket Number	INF-118

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number- Kind Code ² (if known)			
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FOREIGN PATENT DOCUMENTS

Examiner Initials	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ - Number ⁴ - Kind Code ⁵ (if known)				
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SignatureDate
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* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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Substitute for form 1449B/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>		Application Number	10/724,136
		Filing Date	12/1/03
		First Named Inventor	A. Buerke et al.
		Group Art Unit	2811
		Examiner Name	Unknown
Sheet 2	of 2	Attorney Docket Number	INF-118

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		M. Takeyama et al. "Preparation of Wn Films and Their Diffusion Barrier Properties in CU/Si Contact System" Jpn. J. Appl. Phys. Vol. 36 (1997) pp. 2261-2266.	<input type="checkbox"/>
		Y. Kim et al. "New Method to Improve the Adhesion Strength of Tungsten Thin Film on Silicon W2N Glue Layer" App. Phys. Lett. 61 (5) 1992 pp. 537-539	<input type="checkbox"/>
		B. Lee et al. "In situ Barrier Formation Using Rapid Thermal Annealing of a Tungsten Nitride/Polycrystalline Silicon Structure" Applied Physics Letters, Vol. 76 (18) 2000 pp. 2538-2540	<input type="checkbox"/>
		B. Suh, et al. "Crystallization of Amorphous Wn Films" J. Appl. Phys. Vol. 89 (2000), pp 4128-4133.	<input type="checkbox"/>
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Examiner Signature		Date Considered	
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